

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Subhendu Guha et al.

Serial No.: 10/765,435

Group Art Unit: 2822

Filing Date: January 27, 2004

Examiner: Thanh Y. Tran

For: **METHOD FOR DEPOSITING HIGH-QUALITY MICROCRYSTALLINE SEMICONDUCTOR MATERIALS**

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**AFFIDAVIT OF CHI C. YANG**

I, Chi C. Yang, being duly sworn, do state the following:

1. I have a Ph.D. degree in physics.
2. I am a named inventor on the aforementioned 10/765,435 patent application, and I am very familiar with the contents of that patent application.
3. I am one of the listed inventors on U.S. Patent 6,274,461, and I am very familiar with the content of the '461 patent.
4. The '461 patent is concerned with the deposition of high quality amorphous semiconductor materials of the type used in photovoltaic devices. The '461 patent is based upon my finding that in a plasma deposition process for the preparation of an amorphous semiconductor layer, the parameters of that deposition process, specifically including process gas dilution, must be varied as the thickness of the depositing layer increases; therefore, my patent describes a method wherein the dilution of the process gas used in the deposition process is decreased as the layer thickness increases so as to avoid the deposition of a microcrystalline material.

5. The invention of my presently pending patent application is directed to a completely different problem insofar as it is concerned with a process for maintaining the quality of a depositing layer of microcrystalline semiconductor material. I am intimately familiar with the technology of both the '461 patent and the present application, and the subject matter of the present application is not described or suggested in the '461 patent.

6. I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing therein.

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Chi C. Yang

Date: \_\_\_\_\_

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